

OKLAHOMA MESONET / ARS QUALITY ASSURANCE REPORT

July 2010

Prepared by **Alex McCombs**
gamgr@mesonet.org

- Mesonet technicians performed scheduled rotations of 8 Aspirator Fans, 5 Barometers (PRES), 9 temperature and relative humidity sensors (RELH), 2 pyranometer (SRAD) and 3 Windsentries (WS2M).
- The Aspirator Fan at the El Reno (ELRE) site affected air temperature data from 20 June - 16 July 2010, appropriate data were flagged as errant.
- The Aspirator Fan at the Weatherford (WEAT) site affected air temperature data from 5 July - 19 July 2010, appropriate data were flagged as errant.
- The Aspirator Fan at the Medford (MEDF) site affected air temperature data from 7 July - 19 July 2010, appropriate data were flagged as errant.
- The Aspirator Fan at the Spencer (SPEN) site affected air temperature data from 10 July - 19 July 2010, appropriate data were flagged as errant.
- The Aspirator Fan at the Pryor (PRYO) site affected air temperature data from 10 July - 20 July 2010, appropriate data were flagged as errant.
- The Aspirator Fan at the Burneyville (BURN) site affected air temperature data from 21 July - 22 July 2010, appropriate data were flagged as errant.
- The Aspirator Fan at the Waurika (WAUR) site affected air temperature data from 8 July - 23 July 2010, appropriate data were flagged as errant.
- The Aspirator Fan at the Skiatook (SKIA) site affected air temperature data from 4 July - 23 July 2010, appropriate data were flagged as errant.
- The Aspirator Fan at the Apache (APAC) site affected air temperature data from 11 July - 23 July 2010, appropriate data were flagged as errant.
- The Aspirator Fan at the Fort Cobb (FTCB) site affected air temperature beginning 10 August 2010, appropriate data were flagged as errant.
- The Multiplexer at the Sallisaw (SALL) site caused errant spikes in all soil moisture and soil temperature data beginning 10 August 2010, appropriate data were flagged as errant.
- The Datalogger at the Newport (NEWP) site caused a bias in air temperature (TAIR) data and soil temperature data from 17 July - 27 July 2010, appropriate data were flagged as errant.
- A Loose connection to the Current Excitation at the Walters (WALT) site caused all soil moisture sensors not to heat from 4 July - 6 July 2010, appropriate data were flagged.
- ARS Watershed Site A153 remains down due to stolen solar panel.

Mesonet QA Report for Standard Variables

| Variable | Status | Ticket | Site | Remarks |
|-------------|----------|--------|------|---|
| TAIR | | | | |
| RELH | Resolved | 19928 | EUFA | Sensor has low bias during high humidity |
| WSPD | Resolved | 19931 | HOOK | Sensor developed a starting threshold problem |
| WDIR | | | | |
| PRES | Resolved | 19929 | MTHE | Sensor had high bias compared to neighbors |
| | Resolved | 19960 | NOWA | Errant spikes in data |
| SRAD | Current | 20019 | BUTL | Sensor has a low bias |
| RAIN | Current | 19853 | COOK | Drip tests are low during season pass visits |
| TA9M | | | | |
| WS2M | Resolved | 19932 | CLRM | Sensor developed a starting threshold problem |
| | Current | 19964 | MANG | Sensor has a starting threshold problem |
| | Current | 20020 | FITT | Sensor has a starting threshold problem |
| | Current | 20029 | TALI | Sensor has a starting threshold problem |
| TS10 | Resolved | 19937 | ARD2 | Sensor had a low bias |
| | Resolved | 19985 | EUFA | Sensor had a low bias |
| | Resolved | 19980 | MARE | Bath Test Found TS05 had bias not TS10 |
| | Current | 19979 | HUGO | Sensor has a low bias |
| TB10 | Resolved | 19913 | PUTN | Sensor had a low bias |
| | Resolved | 19953 | SEIL | Sensor has a high bias after rainfall |
| | Current | 19954 | GOOD | Sensor has a low bias |
| | Current | 19959 | MCAL | Sensor reporting large negative numbers |
| | Current | 20021 | ERIC | Bare plot diurnal variation is muted |

| | | | | |
|-------------|-----------------|--------------|-------------|--|
| | Current | 20022 | BROK | Bare plot diurnal variation is muted |
| | | | | |
| TS05 | Resolved | 19955 | EUFA | Sensor had a low bias |
| | Resolved | 20002 | MARE | Sensor had a low bias |
| | Current | 19893 | TISH | Sensor has a low bias |
| | Current | 19940 | CLOU | Sensor has a high bias |
| | Current | 19976 | CHEY | Sensor has a low bias compared to other levels |
| | Current | 20023 | NEWK | Sensor has a low bias compared to other levels |
| | | | | |
| TB05 | Current | 19845 | SLAP | Sensor has a high bias after rainfall at site |
| | Current | 19958 | MCAL | Sensor reporting errant spikes in data |
| | Current | 20026 | VINI | Sensor has a low bias |
| | Resolved | 19952 | NRMN | Bare plot 2cm too shallow |
| | | | | |
| TS30 | Resolved | 19892 | PAWN | Sensor reported errant spikes in data |
| | Resolved | 19918 | KETC | Sensor had a low bias and errant spikes in data |
| | Resolved | 19977 | COPA | Sensor had a low bias |
| | Current | 20024 | HOLL | Sensor has a low bias |
| | | | | |
| TR05 | Resolved | 19902 | TIPT | Sensor reporting errant data |
| | | | | |
| TR25 | Resolved | 19852 | WATO | Sensor reporting errant data |
| | | | | |
| TR60 | Resolved | 19905 | NRMN | Sensor stopped heating |
| | Resolved | 19966 | BEAV | Sensor reporting errant data |
| | | | | |
| TR75 | | | | |
| | | | | |

ARS Little Washita Watershed QA Report

| Variable | Status | Ticket | Site | Remarks |
|-------------|----------|--------|------|---|
| RAIN | Current | 19140 | A162 | Rain gauge missed rain event |
| VW05 | | | | |
| VW25 | Resolved | 19917 | A152 | Reporting errant increases in soil moisture |
| VW45 | Resolved | 19854 | A146 | VW45 and V45T reporting errant data |
| V05T | | | | |
| V25T | | | | |
| V45T | | | | |

ARS Ft. Cobb Watershed QA Report

| Variable | Status | Ticket | Site | Remarks |
|-------------|---------|--------|------|---|
| RAIN | Current | 19924 | F109 | Rain gauge stopped recording rainfall |
| VW05 | Current | 20028 | F112 | Soil Moisture exceeding sensor thresholds |
| VW25 | | | | |
| VW45 | Current | 19850 | F103 | Soil moisture reporting errant spikes in data |
| V05T | | | | |
| V25T | | | | |
| V45T | | | | |

“Current” tickets are the unresolved tickets as of the last day of the month OR those tickets added based on the Monthly QA analysis.

“Resolved” tickets are the sensor problems that were fixed during the entire month.

| Variable | Description |
|-----------------|--|
| TAIR | Air temperature measured at 1.5 meters |
| RELH | Relative humidity measured at 1.5 meters |
| WDIR | Wind direction measured at 10 meters |
| WSPD | Wind speed measured at 10 meters |
| PRES | Pressure |
| SRAD | Incident solar radiation |
| RAIN | Rainfall |
| TA9M | Air temperature measured at 9 meters |
| WS2M | Wind speed measured at 2 meters |
| TS10 | Soil temperature measured at 10 cm under native sod |
| TB10 | Soil temperature measured at 10 cm under bare soil |
| TS05 | Soil temperature measured at 5 cm under native sod |
| TB05 | Soil temperature measured at 5 cm under bare soil |
| TS15 | Soil temperature measured at 15 cm under native sod |
| TS30 | Soil temperature measured at 30 cm under native sod |
| TR05 | Soil moisture: Calibrated DeltaT measured at 5 cm under native sod |
| TR25 | Soil moisture: Calibrated DeltaT measured at 25 cm under native sod |
| TR60 | Soil moisture: Calibrated DeltaT measured at 60 cm under native sod |
| TR75 | Soil moisture: Calibrated DeltaT measured at 75 cm under native sod |
| VW05 | Soil moisture: Volumetric water content measured at 5 cm under native sod |
| VW25 | Soil moisture: Volumetric water content measured at 25 cm under native sod |
| VW45 | Soil moisture: Volumetric water content measured at 45 cm under native sod |
| V05T | Soil Temperature measured at 5 cm under native sod |
| V25T | Soil Temperature measured at 25cm under native sod |
| V45T | Soil Temperature measured at 45cm under native sod |